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ABSTRACT

Progress has been made in serving rural students with low-incidence handicaps after the implementation of Public Law 94-142, yet research indicates that this category of students is still the most difficult population to serve. Hence, designing least restrictive environment (LRE) services is crucial in further improving this type of program. Traditional models of service delivery to handicapped students are not appropriate for rural school systems because many presumed conditions for those models do not exist in rural settings. The diversity of rural communities requires the planner to consider multiple factors affecting LRE services. These factors are interrelated and their combinations should be stressed in service planning. Factors that cannot be controlled by the model designer are called "givens," such as population, distance from students to services, ages and disabilities of students, and existing personnel. Factors that can be manipulated by the planner are termed "variables," such as staff development, transportation, and staffing for services. Planners must manipulate "variables" after recognizing the "givens." As no model is directly transportable, various successful models are described: state funded and statewide models, local cooperative administrative models, the "resource room" model, and models that identify scarce resources, incorporate advanced technologies, or use paraprofessionals. (GGH)

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MODELS FOR SERVING RURAL STUDENTS IN THE LEAST RESTRICTIVE ENVIRONMENT

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MODELS FOR SERVING RURAL STUDENTS IN THE LEAST RESTRICTIVE ENVIRONMENT

Historically, the majority of rural educators have not voiced problems concerning serving mildly and moderately handicapped students. Such students were typically not identified as handicapped or were thought to have unusual learning needs and served in the regular classroom. Thus, compared to their nonrural counterparts, rural mildly/moderately handicapped students have had minimal problems gaining the acceptance of regular classroom teachers and students and being served in the Least Restrictive Environment (LRE).

This was partly because of the rural norm of "taking care of one's own" and partly because rural Americans inherently dislike the labeling of individuals. It is also partially attributable to the practical nature of rural educators. They tend to "make do," when given inadequate resources (in this case, lack of special education classes or other resources).

However, situations were more problematic when teachers were asked to serve students with severe handicaps and those classified in other low-incidence categories. In rural school systems, this typically includes students having hearing impairments, emotional/behavioral disorders, blindness or other visual impairments, severe orthopedic disabilities or other health impairments, severe mental retardation, and those with multiple or severe handicaps. However, in very small rural schools, a child with mild or moderate mental retardation may have a "low-incidence handicap."

Rural schools typically did not have high enough enrollments of children with low-incidence disabilities to gain funding for segregated special education classrooms or teaching specialists. Frequently, they also had no other available services or supportive staff. Thus, serving students who needed

major adjustments in classroom curricula, materials, or activities was particularly difficult for regular classroom teachers with large numbers of non-handicapped students.

Until Public Law 94-142 (PL 94-142) was in "full implementation," rural children having low-incidence handicaps were typically unserved, or at best, underserved. In fact, a national study comparing rural special education services before and after the implementation of PL 94-142 indicated that tremendous changes occurred in services available to rural students with low-incidence handicaps (Helge, 1980).

Data gathered for this study via on-site and telephone interviews indicated dramatic increases in the percentages of low-incidence children identified and served. (The percentage of change was 47% from 1975 to 1980.) This was particularly true with severely handicapped populations. Before the implementation of PL 94-142, many rural districts/cooperatives had few special services for severely handicapped students. In fact, a majority of the districts/cooperatives had previously placed such students in residential and private schools and agencies. By 1980, most sampled districts were attempting to serve them in their home district/cooperative.

In spite of the progress noted by the study, the overwhelming majority of the rural school systems involved in the sample reported that students with low-incidence handicaps were the most difficult population to serve. Given such obstacles, it is obvious that designing LRE services has not been the highest priority of most rural school systems.

INADEQUACIES OF TRADITIONAL SERVICE DELIVERY MODELS FOR LRE

Traditional models of providing a continuum of service for students with handicapping conditions (i.e., various adaptations of the classic Reynolds framework introduced in 1962) have been vital to those planning special education services in non-rural settings. These models typically include levels of service such as those depicted below and recommend child placement based on an assessment of the level of severity of a handicap.

Hospitals and Treatment Centers
Hospital School
Residential School
Special Day School
Full/Part Time-Special Class
Regular Class/Resource Room
Regular Class With Consultation
Regular Class (Without Consultation)

Such models are much less appropriate for rural school systems, especially those located in remote geographic areas. For example, a district having two students with cerebral palsy located 250 miles from each other typically cannot cluster these students for services.

Many of the levels of the traditional continuum do not exist in rural areas and many do not facilitate integration of severely handicapped students. Traditional continuum-of-services models also assume the existence of a greater number of staff than is typical in most rural schools. An adequate funding base for such staffing has also been assumed, although numerous studies have shown that this is certainly not true in the majority of rural systems.

Another inclination of those proposing special education service delivery models has been to identify "the" model for rural service delivery. For example, after the passage of PL 94-142, special education cooperatives became widespread, allowing school districts to combine scarce resources so that they could pay for expensive specialized services and staff.

The predominant special education cooperative model involves hiring one or more itinerant specialists who travel as needed to isolated students requiring specialized services. They provide services ranging from direct instruction of children to training staff and consulting with parents. This type of structure has made services available to many previously unserved rural students with handicaps.

However, cooperatives and itinerant staff shared among districts within a collaborative structure have not been a panacea. Even cooperatives have frequently been unable to afford to hire a necessary full-time itinerant staff member to serve only a few low-incidence handicapped students in widely scattered geographic terrain. Itinerant staff tend to be highly stressed professionals, and attrition rates are high. Many itinerant personnel must be self-reinforcers not only when travelling but also when housed in school buildings where their role is "different" and typically misunderstood. Program continuity is difficult, even under the best of arrangements, when a person with specialized training is only able to visit or train the local classroom teacher a few times per year. Finally, traditional itinerant service arrangements are not always an option. Distance between students and services, geographic barriers, and/or inclement weather frequently prohibit transportation of students or professionals on a consistent basis.

CONSIDERATIONS FOR LRE SERVICE DELIVERY PLANNING

Just as urban models are not appropriate for rural schools, there is not "one" rural service delivery model for the great variety of rural school systems and their attendant subcultures. It cannot be assumed that a practice effective in remote Wyoming ranching territory will be viable on an isolated island, in part of a cluster of New England seacoast towns, or in an

agricultural migrant camp. Instead, service delivery models must be individually designed for the rural school system and subculture in which they will be implemented.

Each of the 15 factors discussed in the sections that follow must be considered by those designing a service delivery system for students with low-incidence handicaps. Most importantly, the interrelationships between them must be assessed. For example, districts with equivalent population densities should plan in significantly different ways if one school system is surrounded by mountains with relatively untraversable roads all winter, while the other is located in a flat agricultural area with mild winters.

Relationship of District Governance System to External Resources

A district that is administratively part of a cooperative or has access to a state's education service district typically has greater resources available to it than does a district where the majority of external resources must come from a centralized state education agency (SEA). This is particularly true when the isolated district is located a great distance from the SEA or when geographic or climatic barriers exist.

Population Sparsity

The population per square mile is significant for the model planner. Although a rural system is by definition relatively sparsely populated, services must be planned in a dramatically different manner for small clustered townships than for schools located on remote islands, vast rangelands, or in the isolated bush villages of Alaska. This is important in determining whether students with similar learning needs are available to be clustered for services and in assessing proximity to services.

Distance From Student to Services Needed

Assuming a service exists, the planner needs to know the distance from child to service location or from itinerant staff member to child. Knowledge of

the actual travel time will assist in determining whether a service or professional should be transported to the student or vice versa.

Geographic Barriers.

Absolute distance from potential services to a student is frequently complicated by geographic barriers such as mountains, untraversable roads, or the necessity of taking ferries or small planes. In some areas of the northeast and northwest, roads do not exist. Personnel must either travel by light plane or snowmobile, or even detour through Canada, to reach their rural district. Because the U.S. Government owns and prohibits travel through large areas of several western states, school personnel in these states must frequently travel an extra 2 or 3 hours to reach their service destinations.

Climatic Barriers.

In areas with severe climates or seasonal problems such as heavy spring flooding, it may be relatively unimportant (and highly frustrating) to planners that a qualified professional or program is located only an hour's distance from the child. Students with disabilities suffer when program continuity is frequently disrupted by weather-related problems. Administrators also experience difficulties with planning or implementing longitudinal goals for a child.

Language Spoken in the Community.

Just as primary languages spoken by a handicapped child must be considered when designing an Individualized Education Program (IEP), the primary language of the rural child and his or her family also has relevance for selecting appropriate personnel, especially itinerant staff who visit rural communities with lifestyles and cultures different from their own. This is also extremely important to the administrator who is considering clustering students for services.

Cultural Diversity

Besides the most readily recognized ethnic cultures with which service planners try not to interfere (knowing that disrupting family life interferes with the effectiveness of services), unique rural subcultures must be considered. Research has clearly indicated that some IEP requirements, though well intentioned, were written without extensive familiarity with various rural cultures. Implementing the requirement that written parental permission be obtained, for example, is particularly difficult in some rural-based cultures, having no written language.

Similarly, some rural-based subcultures have no concept of special education terms (e.g., learning disabilities). Some religious cultural minorities also have beliefs and traditions that are at variance with school traditions, such as religious holidays that conflict with a school calendar of services. Planners must also be aware of unique community and parent expectations for the success of handicapped students.

Handicapped students who belong to transient rural subcultures (such as migrant and military populations) also provide unique challenges for the rural special education planner. These include tracking children to ensure program continuity.

A relatively new phenomenon facing many rural special education planners is the "boom or bust" syndrome prevalent in states with a priority of developing energy resources. Some special education administrators, faced with "overnight" doubling of their special education population because of temporary influxes of workers, find that by the time they locate resources to provide services, their populations have significantly decreased.

Economic Lifestyles of the Community

Rural communities, particularly those with relatively non-diversified economies, tend to schedule their lives around the requirements they face as

they attempt to make a living. Service delivery planners should be aware of total community priorities and events that might influence or even interfere with service delivery. Examples include handicapped children who are absent from school during peak periods of agricultural, fishing, or timber "harvesting" or during seasonal festivals in resort communities.

Community Communication and Power Structures

The special education planner who ignores the existing communication and power structures of a rural community will probably not be required to plan such services for an extended period of time. Typically, informal systems are more potent than those that are formally outlined. Informal rules often have significant ramifications for serving students with disabilities. For example, they may affect such issues as who, in reality, assigns duties to the itinerant specialist, confidentiality of student data, and the person to whom service deliverers feel accountable.

Ages of Students

The planner should ascertain the ages of children to be served in the local district and in any adjacent communities or systems in which collaborative services are being considered. The United States still has many one-room schoolhouses in which one teacher is responsible for a wide range of ages. Studies have shown that such a situation entails a great deal of stress associated with burnout (Dickerson, 1980; Helge, 1981). Thus it behooves the administrator to attempt to group students in similar age groups if at all possible. Exceptions, of course, are made when developmental age is more critical than chronological age.

Types and Severity Levels of Disabilities

The level of severity of a disability frequently determines the type of LRE services. Some types of handicapping conditions tend to be more pre-

valent in some rural subcultures than others. The National Rural Project, in its 1978-1981 studies, for example, found that areas with colder temperatures tend to have more hearing-impaired children, and that areas of poverty as well as migrant cultures tend to have greater concentrations of mentally retarded children because of inadequate nutrition, health care, and prenatal care (Helge, 1981). Designing LRE services for such unique groups of students requires specific actions by the planner.

History of Special Education Services

Past services to handicapped children in a particular service area are closely linked not only to available funding and awareness of PL 94-142 regulations, but also to community attitudes. In rural communities, key power sources (whether the school board chair or the wealthy farmer who likes children and serves as a janitor during the off-season) have pervasive influences on school services.

Rural citizens are typically unimpressed by what they are told they "have to do" for handicapped students. In contrast, they are highly motivated to provide appropriate services when the initiative is theirs. Adept administrators understand and plan to use such inherent rural community attributes, particularly when attempting changes.

In rural communities having a unique ethnic heritage, it is possible and important to plan new services that will be palatable to the native heritage and as much as possible preserve the community's self-determination and identity. It is not surprising that isolated rural communities whose only choice in the past has been to send their disabled students to communities or cities with dissimilar cultures have resisted change--and sometimes, special education as a concept.

Currently Available Resources

While PL 94-142 requires that appropriate services be available to each student in the least restrictive environment, the law does not state how such

services are to be delivered. Despite their reputation for inflexibility, rural citizens have, out of necessity, long tended to be creative problem-solvers. The model planner should assess all existing resources. The resulting catalog of current resources should include intra-school and external facilities, equipment, and so forth. The planner should then identify and take advantage of the "hidden" resources endemic to rural America, such as its sense of volunteerism and community spirit.

Cost Efficiency

When feasible, the planner should assess costs of alternate systems of providing a given service. The fiscal realities of rural schools, departments, and classroom budgets must be considered. However, the planner will typically not be faced with evaluating monetary trade-offs between equivalent alternatives. It is more likely that he or she will have to present a need and request funds from a supervisor, a cost-conscious rural school board, or a community organization.

The administrator should be knowledgeable of budgetary accountability systems. Data gathering and subsequent presentations should consider cost efficiency in light of a varying range of potential effectiveness. The planner should address not only local per-pupil expenditure vs. out-of-district placement costs, but funding alternatives. The planner should also be prepared to answer questions concerning the percentage of the local school district contribution for salaries, transportation, consultants, and equipment.

Expertise and Attitudes of Available Personnel

The planner must not only note the grade levels and types of disabilities that existing personnel are prepared to serve, but also their flexibility in serving as a generalist (i.e., teaching students with several types of disabilities) or as a specialist. Formal as well as informal training must be considered, and attitudes of personnel toward serving children with

various disabilities are equally important. The planner may need to structure staff development opportunities designed to guarantee that students are served by personnel who respect them, understand LRE concepts and implementation, and are comfortable with their specific disability.

DEALING WITH INTERRELATIONSHIPS AND COMBINATIONS OF FACTORS

The importance of understanding and considering the interrelationships of all 15 of these factors cannot be overemphasized. Combinations of factors are critical and should be weighted more heavily than single-factor barriers to service delivery.

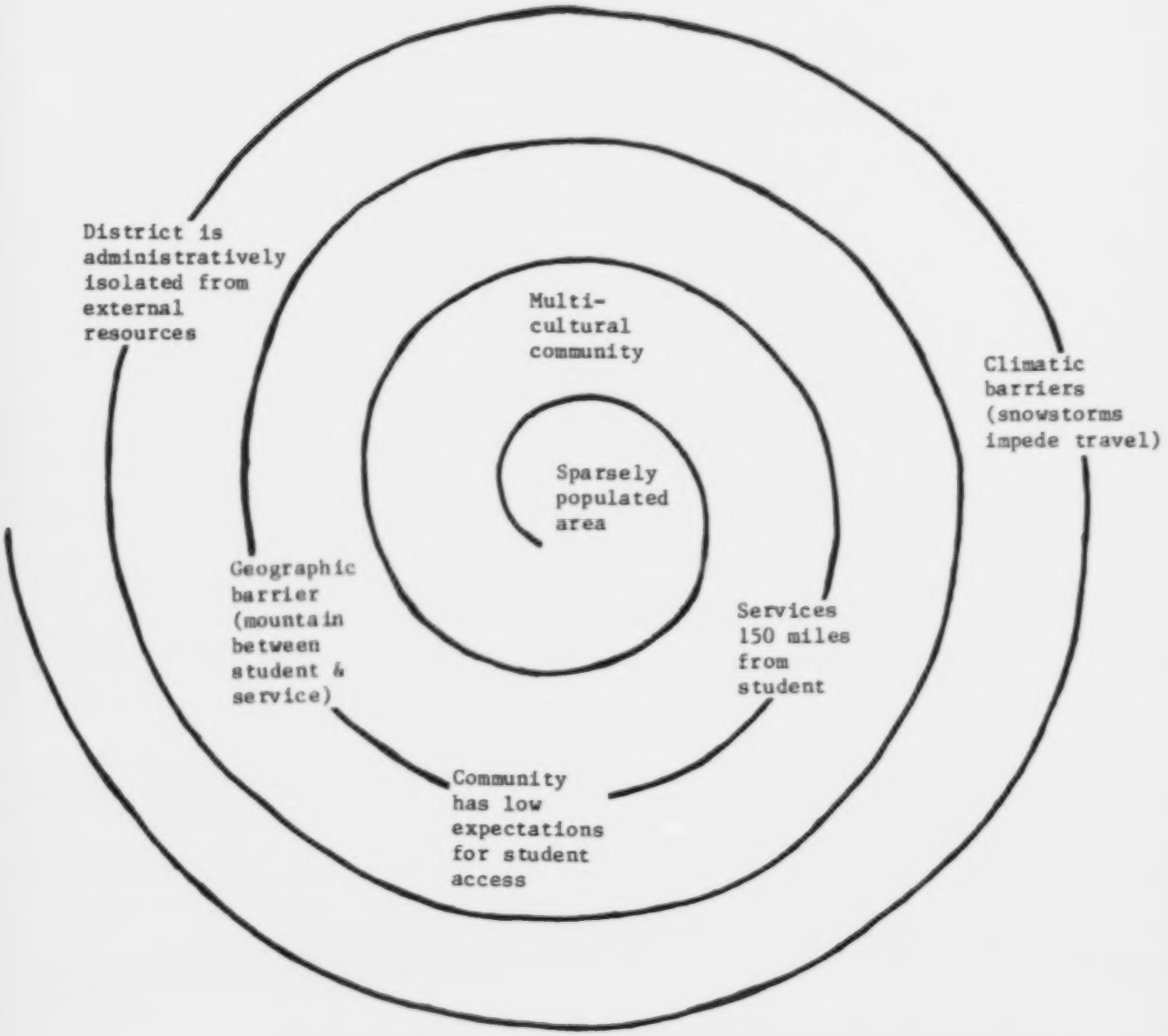
It is difficult to design an effective service delivery model when a rural district has multiple cultures or when, for example, the disabled student resides in a sparsely populated area 150 miles from essential services. The task is even more difficult when the student's culture differs significantly from that of the nearest service area, or when the community's power structure has low expectations for the success of such a student.

The planner should identify which of the 15 variables are problematic, select those that appear to be most important, and address those variables first. Problems that can be quickly ameliorated, should be (e.g., by linkage with technological or other resources available through the state or by gaining the understanding and support of the local power structure). Usually, the planner can merely acknowledge factors that are unchangeable "givens," such as spring flooding, when designing the service delivery plan.

Figure 1 illustrates the fact that planning becomes a more arduous task as the number of problematic factors increases. As one factor is combined with another and the planner spans out to each concentric circle of Figure 1, it is increasingly difficult to design an appropriate service model.

FIGURE 1

INCREASING LEVELS OF DIFFICULTY IN
DESIGNING A SERVICE MODEL


District is administratively isolated from external resources
Multi-cultural community
Climatic barriers (snowstorms impede travel)
Sparsely populated area
Geographic barrier (mountain between student & service)
Services 150 miles from student
Community has low expectations for student access

MODEL DEVELOPMENT

After considering these factors, the planner is ready to develop a workable service delivery model. There is no such thing as a pure model for rural special education service delivery. Rather, eclectic approaches are the rule, and numerous variables must be juggled (such as cost vs. intensity of need or availability of alternate services.)

Technological advances are greatly improving the options of the local rural district. For example, it is no longer necessary to choose between hiring a specialist or a generalist if a generalist can use satellite instruction (or some other technology) to supply specialized instructional content.

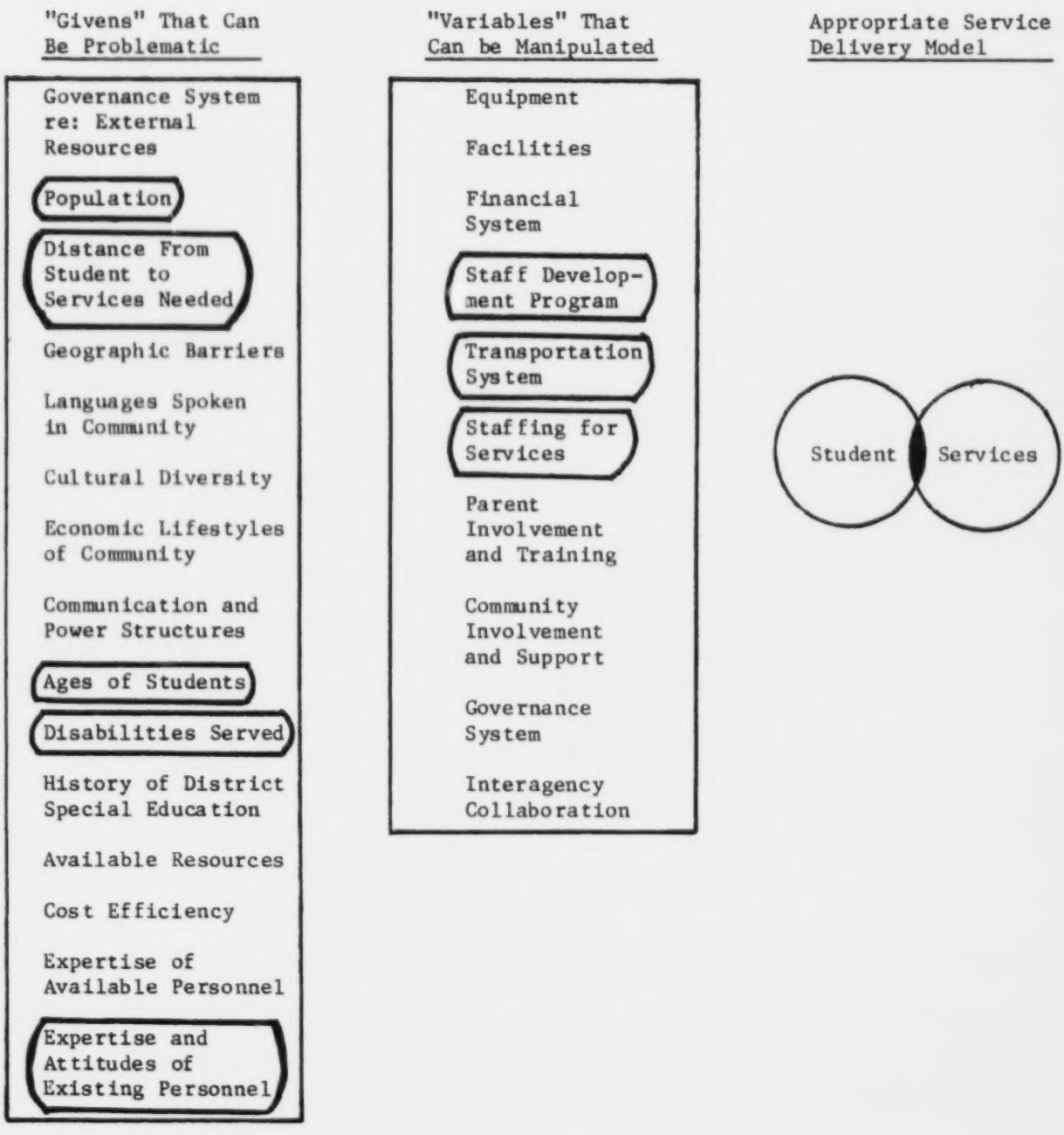
Variables of a service delivery model that must be manipulated so that the resulting eclectic model has a "fit" are as follows:

Equipment
Facilities
Financial system
Staff development program
Transportation system
Staffing for services
Parent involvement and training
Community involvement and support
Governance system
Interagency collaboration

Figure 2 illustrates the process of designing a rural service delivery model. Factors that can present planning problems, but cannot be controlled by the model designer are termed "givens." Factors that can be manipulated by the planner are labeled "variables." The planner can create an appropriate service delivery model by recognizing givens and controlling variables.

Figure 2

Consideration of "Givens" and Manipulation of
"Variables" Allows the Planner to Create
An Appropriate Service Model



G + V = M

*Items circled are illustrative.

SAMPLES OF SUCCESSFUL RURAL SERVICE DELIVERY MODELS

The reader is reminded that low-incidence disabilities vary greatly from district to district because of population and environmental influences. Thus, in one district, a given model may be used to serve students who are cerebral palsied or deaf. In another district, the model may be adapted to serve the only moderately retarded student in the district.

Development of each of the successful models described in this section involve the recognition of factors discussed in the section on considerations for service delivery planning. Each design highlights the manipulation of one or more of the ten variables listed, although none of the models controlled or changed all of them.

An adroit planner would not directly "transport" any of the sample models, but would consider them illustrative of the ways in which factors can be recognized and/or variables manipulated in order to create a subculture-specific model. Table I illustrates the variety of formats used by the sample models.

Table I

EXAMPLES OF MODELS WHICH MANIPULATED "VARIABLES" AFTER CONSIDERING "GIVENS" OF SERVING STUDENTS WITH LOW-INCIDENCE HANDICAPS

Sample Model	Equipment	Facilities	Financial System	Staff Development Program	Transportation System	Staffing	Parent Involvement	Community Involvement	Governance System	Interagency Collaboration
State-Funded IEUs	X	X	X	X	X	X			X	X
Statewide Networks of Consulting Itinerants	X	X	X	X	X	X				
Statewide Model to Provide Consulting Services for Regular Teachers of Low-Incidence Handicapped				X		X				
Statewide I-Team Model re: Severely Handicapped				X			X		X	X
Statewide Model to Provide Services to Culturally Different Students		X	X	X	X	X	X	X	X	
Local Special Education Cooperatives	X	X	X	X	X	X			X	X
Non-Categorical Resource Rooms	X	X		X		X				
Model Identifying and Using All Potential Resources Within an Isolated District	X	X	X			X	X	X		X
Models Incorporating Advanced Technologies	X	X		X	X	X	X			X
Model Using Paraprofessionals			X	X		X		X		

State Funded Intermediate Education Units (IEUs)

This administrative structure uses regional specialists who provide technical assistance and consultation to local district personnel. Some IEUs are designed specifically to provide special education services, and some are designed to provide all specialized services that are difficult for small districts to provide (e.g., comprehensive vocational education). Most IEUs are administratively part of the state department of education, although one state (Nebraska) specifically separates its IEU from the state education agency.

IEU personnel generally provide services only to other professionals. This pattern is sometimes varied to demonstrate an effective technique or to train a professional to deliver the service independently in the future.

Although inservice activities are sometimes held across regions or on a statewide basis, most are specifically planned for a district or region. Some IEUs have centralized media and materials centers with extensive options for check out, and some states incorporate mobile materials centers. Generic specialists (e.g., resource room teachers) at the local level are sometimes supported by specialized regional consultants (i.e., those dealing with a specific type of exceptionality such as visual impairment). This type of model is responsive to rural remote districts when consultant responsibilities are aligned by geographic regions vs. an entire state. The planner adapting it for a particular district would want to design safeguards so a generic specialist did not become too dependent on a regional specialist. This would prevent inadequate services or a lack of services in the absence of the regional specialist.

Statewide Networks of Itinerant Specialists

The small rural state of New Hampshire has implemented a system to serve students with the low-incidence handicaps of hearing and visual impairments. This system is operated by contract with a private firm that hires consultants to provide services to blind and deaf students in remote rural areas with no specialized local personnel. The consultants also train local personnel to deliver follow-up services until they return. Items from an extensive media and materials center are taken to the local district for use when the consultants are absent, and are varied and updated as needed.

Statewide Model to Provide Consulting Services for Teachers

The rural state of Vermont was funded by the U.S. Office of Special Education Programs (SEP) to develop a trainer-of-trainers model addressing the needs of students with low-incidence handicaps. The model involves collaboration between the University of Vermont, the state department of education, and local rural districts across the state. Teacher consultants, similar to master teachers, were trained by university faculty to train regular class teachers to mainstream and effectively work with low-incidence handicapped children. All teacher consultants became adjunct faculty of the university and teachers who were successfully trained received university credits. Teacher consultants did not provide direct services unless it was necessary to demonstrate effective techniques. The model provided for consistent availability of consultants to the regular educators.

Statewide Interdisciplinary Team Model

A contrast to the one-on-one model for training regular educators is Vermont's Interdisciplinary Team (I-Team) Model. It is organized specifically to enhance services to more severely handicapped students. The con-

concept involves local I-Teams, a regional educational specialist (ES), and a state I-Team. The levels interface with each other. Each I-Team contains several specialists such as special educators and specialists in communications, physical therapy, occupational therapy, medicine, engineering, and carpentry.

The regional educational specialist is locally based and coordinates services for multihandicapped students in a region. A local or state I-Team member may be asked for assistance. The regional ES position reduces travel time required to deliver services including assessment; staffing to generate recommendations; training to teachers, parents, educational specialists, and others; monitoring the implementation of recommendations; and coordinating training and consultative services.

Local I-Team members encourage parent support by home visits and by providing parent training. Parents participating in I-Team services also may attend formal class sessions taught by state I-Team members or university faculty. The state I-Team serves districts that lack a local I-Team, and also provides technical assistance and training to all local I-Teams needing such services.

Statewide Model to Provide Services to Culturally Different Students with Moderate and Severe Handicaps

Sparse populations of Eskimo, Indian, and Aleut families scattered across the 586,000 square miles of Alaska presented unique challenges to those attempting to upgrade the state's system for full implementation of PL 94-142. The state's previous system placed students with severe and other low-incidence handicaps in urban residential schools or foster care. Such a system grossly interfered with the self-determination of native families and with perpetuation of the cultural identity of remote Alaskan villages.

Problems also existed with continuity of local services because of the high personnel attrition rates of newcomers attempting to live and work with bush village cultures.

A statewide model entitled Alaska Resources for the Moderately/Severely Impaired (ARMSI) was designed to provide professional services and consultation to students and their teachers. The primary strength of the model is that services are offered within the local villages. The thesis of this model was that most local schools, with the proper degree of assistance, can provide an appropriate public education for most students.

ARMSI was initiated in 1981, and centralized the coordination of all services for this massive state, although service delivery was localized. ARMSI became the umbrella service agency and recruited experienced staff who previously worked with various fragmented service agencies. The 18 staff members thus have extensive experience working in Alaska bush villages and knowledge of how to work and communicate with villagers.

Staff serve as itinerant specialists and offer three basic types of assistance: (a) direct instruction and other services to children and youth; (b) training of and consultation with school district staff; and (c) dissemination of instructional materials and information. This assistance takes place during on-site visits to the villages three to four times per year. Personnel stay at a school or district for about three days on each occasion. The visits are part of technical assistance agreements designed by ARMSI and each local district. Because the itinerant educators continue to work with the same children for several years, the project has the potential of bringing greater educational continuity. Longitudinal goals are more likely to be carried out.

Cooperative Administrative Structures at the Local Level

PL 94-142 regulations specify that any LEA unable to qualify for a

$7,500 allocation (based on the number of handicapped children served) will receive no pass-through funds. This guideline obviously encourages the formation of consortium arrangements to provide special services, and these have typically been titled "special education cooperatives."

The operation of cooperatives is as varied as the geographic terrain and climatic conditions in which they exist. Pooling funds through various kinds of administrative structures allows single districts that are part of a cooperative to better meet the needs of rural students with low-incidence handicaps. Where geographic distances and climatic variables are not unwieldy, districts can cooperatively hire a person to serve children who were previously unserved or underserved because a single district could not afford a full-time person to serve a few students.

Districts can also cooperatively fund and host inservice training addressing low-incidence needs, and jointly fund relevant equipment, media, and materials. Districts located in close enough proximity frequently cooperatively transport students and/or centralize diagnostic or intervention services.

Noncategorical Resource Room Model

This model is frequently called an interrelated classroom or simply, a resource room. It is typically used by local districts having too few students with any particular disability to warrant establishing a segregated class for children with mental retardation, learning disabilities, severe vision defects, etc. The emphasis in variations of this model is on improving academic, behavioral, or psychomotor deficits through individualizing a child's curriculum and other learning experiences.

The types of disabilities served in each classroom vary tremendously from district to district. Students are typically mainstreamed into regular classes whenever appropriate. In a cooperative, students are sometimes

transported to a central location for the resource room. More frequently, the noncategorical service area is confined to one district or building. This ensures greater access to regular classes and regular classroom teachers as students are mainstreamed. In fact, the strongest programs observed by the author have been those with the greatest interaction between the noncategorical resource teacher and regular educators.

One variable to be manipulated in this model is the percentage of the resource teacher's time spent providing direct services to students assigned to the resource room and the percentage of time spent consulting with their regular classroom teachers.

Some resource rooms serve students who are not classified as special education students so that the program will have less stigma and regular class teachers will be more likely to use materials available through the resource room. The most effective programs totally individualize the implementation of IEP goals, and many resource rooms seldom involve students actually working together.

Some resource rooms have aides funded by the district or by another program such as a government CETA program. Others involve parents, community volunteers, or university practicum students, and many rural resource room teachers function independently.

Model to Identify Scarce Resources

Several districts that were extremely isolated from other districts and from state resources have identified and optimally used every possible resource within their community. They have found that using community personnel as resources has created a side benefit of additional community support for their schools.

Although the model varies from community to community, the following basic components are consistently present:

1. Completion of a needs assessment at the total school and individual classroom level.

2. Completion of a resource survey of all school personnel, listing skills and competencies that could be shared with others, including children with low-incidence handicaps. Data on potential community and parent resources were an integral part of the resource base. Community facilities and equipment are included in the resource data bank.

3. Use of a manual card-sorting or a computerized retrieval system to link the identified resources and needs. This linkage may include having one teacher, uncomfortable working with a student with a hearing impairment, view another teacher with skills in this area. It may also include using high school students in a child development class as "extra manpower" by having them assist a special education teacher with follow-up motor skill activities for students with severe physical impairments. Other schools have used unemployed certified teachers, retired teachers, and other community members as volunteers in the classroom. Isolated resort communities have actively recruited the assistance of long-term visitors. Volunteers provide services ranging from tutoring students to furnishing transportation. They reduce staff development costs by managing a classroom while a teacher engages in inservice, peer observation, or other relevant activities.

The legalities and protocol of each model are individualized for the particular district in which the model was incorporated. However, in all cases, an evolving foundation of school resources was established. Community support for the school was enhanced in each location because citizens became integrally involved in special education programming.

Models Incorporating Advanced Technologies

The use of advanced technologies as a tool for serving remotely located students with low-incidence disabilities is rapidly growing in popularity. For example, a variety of systems have been used to send instructions to isolated educators inadequately trained to teach children with low-incidence handicaps. Model design ranges from consultant-teacher communication by satellite to mobile inservice vans bearing computers programmed to teach specific subject areas. Less expensive models include exchanges of videotapes and one/two-way television instruction.

Technological approaches will be limited more by the imagination of the service planner than by the cost of equipment. Alternate types of advanced technologies are becoming increasingly available in agencies external to schools. Many districts have found human service agencies willing to collaborate in service delivery, especially when highly specialized equipment is not used by the agency on a full-time basis. Likewise, many rural businesses have been willing to share equipment. Adept administrators have been able to borrow equipment by emphasizing advantages to local businesses, such as enhancement of their community image and potential tax write-offs.

Models Using Paraprofessionals

Trained paraprofessionals are frequently used by rural school districts when certified personnel are unavailable. Paraprofessionals support special and regular educators conducting classroom or therapy activities with a handicapped student. Tutoring activities might range from academic or psychomotor curriculum activities to counseling regarding improvement of social skills. Paraprofessionals might also conduct follow-through exercises assigned by a speech, physical, or occupational therapist or assist with adaptive physical education exercises.

An essential ingredient in the effective design of a paraprofessional model is appropriate training and careful observation of performance. Trained paraprofessionals are frequently teamed with parent and community volunteers. Paraprofessional personnel are usually paid staff members, although there have been instances in which they functioned on a volunteer basis. Most rural paraprofessional programs have assumed that paraprofessionals will function as generalists. Their specialized tasks are generally limited to supervised follow-through activities assigned by speech, occupational, or physical therapists.

SUMMARY

Traditional models designed to provide a continuum of services to handicapped students are inadequate for rural schools attempting to serve students with low-incidence handicaps in the LRE. Because of the tremendous diversity in rural school systems, there is no "one" rural service delivery model. There are, however, a number of community and district characteristics that a model designer must consider. The planner may then appropriately control variables such as usage of personnel, transportation systems, and community involvement to design an individualized model viable for the student, district, and community.

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